

Name: _____

Aviation-Airframe**Directions:**

Evaluate the student by entering the appropriate number to indicate the degree of competency achieved.

Rating Scale (0-3):

- 0 No Exposure/Unsuccessful Attempt** – no experience/ knowledge in this area; unable to meet knowledge or performance criteria and/or required significant assistance
- 1 Knowledge Demonstrated** - confirmed knowledge of general principles (no practical application or manipulative skill development)
- 2 Applied Knowledge/Performance Demonstrated** - confirmed knowledge of general principles; limited practical application; development of sufficient manipulative skill to perform basic operations
- 3 Applied Knowledge/Repeated Performance Demonstration** - confirmed knowledge of general principles; performance of a high degree of practical application; development of sufficient manipulative skill to simulate return to service

0	1	2	3	A. Perform basic electrical procedures consistent with industry and safety standards	Notes:
				1. Calculate and measure capacitance and inductance.	
				2. Calculate and measure electrical power.	
				3. Measure voltage, current, resistance, and continuity.	
				4. Determine the relationship of voltage, current, and resistance in electrical circuits.	
				5. Read and interpret aircraft electrical circuit diagrams, including solid state devices and logical functions.	
				6. Inspect and service batteries.	
				Other:	

0	1	2	3	B. Interpret designs, drawings, and specifications	Notes:
				1. Use aircraft drawings, symbols, and system schematics.	
				2. Draw sketches of repairs and alterations.	
				3. Use blueprint information.	
				4. Use graphs and charts.	
				Other:	

0	1	2	3	C. Calculate aircraft weight and balance	Notes:
				1. Weigh aircraft.	
				2. Perform complete weight-and-balance check and record data.	
				Other:	

0	1	2	3	D. Construct fluid routing systems	Notes:
				1. Fabricate and install rigid and flexible fluid lines and fittings.	
				Other:	

0	1	2	3	E. Test aviation-related materials	Notes:
				1. Identify and select appropriate nondestructive testing methods.	
				2. Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections.	
				3. Perform basic heat-treating processes.	
				4. Identify and select aircraft hardware and materials.	
				5. Inspect and check welds.	
				6. Perform precision measurements.	
				Other:	

0	1	2	3	F. Conduct ground operations and servicing	Notes:
				1. Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards.	
				2. Identify and select fuels.	
				Other:	

0	1	2	3	G. Conduct cleaning and corrosion control procedures	Notes:
				1. Identify and select cleaning materials.	
				2. Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning.	
				Other:	

0	1	2	3	H. Apply content-related mathematical skills	Notes:
				1. Extract roots and raise numbers to a given power.	
				2. Determine areas and volumes of various geometrical shapes.	
				3. Solve ratio, proportion, and percentage problems.	
				4. Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.	
				Other:	

0	1	2	3	I. Document and maintain maintenance records	Notes:
				1. Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records.	
				2. Complete required maintenance forms, records, and inspection reports.	
				Other:	

0	1	2	3	J. Apply basic physics to aviation-airframe problems	Notes:
				1. Use and understand the principles of simple machines; sound	

				Other:	
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0	1	2	3	K. Apply maintenance publications/information to the aviation technician position	Notes:
				1. Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturers aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material.	
				2. Read technical data.	
				Other:	

0	1	2	3	L. Exhibit mechanic privileges and limitations	Notes:
				1. Exercise mechanic privileges within the limitations prescribed by Part 65 of this chapter.	
				Other:	

AIRFRAME CURRICULUM SUBJECTS

I. Airframe Structures

0	1	2	3	A. Service and repair wood airframe structures	Notes:
				1. Service and repair wood structures.	
				2. Identify wood defects.	
				3. Inspect wood structures.	
				Other:	

0	1	2	3	B. Select and repair aircraft covering materials	Notes:
				1. Select and apply fabric and fiberglass covering materials.	
				2. Inspect, test, and repair fabric and fiberglass.	
				Other:	

0	1	2	3	C. Inspect and repair aircraft finishes	Notes:
				1. Apply trim, letters, and touchup paint.	
				2. Identify and select aircraft finishing materials.	
				3. Apply finishing materials.	
				4. Inspect finishes and identify defects.	
				Other:	

0	1	2	3	D. Inspect and repair sheet metal and non-metallic structures	Notes:
				1. Select, install, and remove special fasteners for metallic, bonded, and composite structures.	
				2. Inspect bonded structures.	

				3. Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures.	
				4. Inspect, check, service, and repair windows, doors, and interior furnishings.	
				5. Inspect and repair sheet-metal structures.	
				6. Install conventional rivets.	
				7. Form, lay out, and bend sheet-metal.	
				Other:	

0	1	2	3	E. Perform aviation-specific welding tasks	Notes:
				1. Weld magnesium and titanium.	
				2. Solder stainless steel.	
				3. Fabricate tubular structures.	
				4. Solder, braze, gas-weld, and arc-weld steel.	
				5. Weld aluminum and stainless steel.	
				Other:	

0	1	2	3	F. Assemble and rig aircraft components	Notes:
				1. Rig rotary-wing aircraft.	
				2. Rig fixed-wing aircraft.	
				3. Check alignment of structures.	
				4. Assemble aircraft components, including flight control surfaces.	
				5. Balance, rig, and inspect movable primary and secondary flight control surfaces.	
				6. Jack aircraft.	
				Other:	

0	1	2	3	H. Mathematics	Notes:
				1. Extract roots and raise numbers to a given power.	
				2. Determine areas and volumes of various geometrical shapes.	
				3. Solve ratio, proportion, and percentage problems.	
				4. Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.	
				Other:	

0	1	2	3	G. Inspect airframe components	Notes:
				1. Perform airframe conformity and airworthiness inspections.	

				Other:	
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II. Airframe Systems and Components

0	1	2	3	A. Maintain aircraft landing gear systems	Notes:
				1. Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems.	
				Other:	

0	1	2	3	B. Maintain hydraulic and pneumatic power systems	Notes:
				1. Repair hydraulic and pneumatic power systems components.	
				2. Identify and select hydraulic fluids.	
				3. Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems.	
				Other:	

0	1	2	3	C. Maintain cabin atmosphere control systems	Notes:
				1. Inspect, check, service, troubleshoot, and repair heating, cooling, air conditioning, pressurization systems, and air cycle machines.	
				2. Inspect, check, service, troubleshoot, and repair heating, cooling, air conditioning, pressurization systems.	
				3. Inspect, check, service, troubleshoot, and repair oxygen systems.	
				Other:	

0	1	2	3	D. Maintain aircraft instrument systems	Notes:
				1. Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test equipment.	
				2. Install instruments and perform a static pressure system leak test.	
				Other:	

0	1	2	3	E. Maintain communication and navigation systems	Notes:
				1. Inspect, check and troubleshoot autopilot, servos and approach coupling systems.	
				2. Inspect, check and service aircraft electronic communication and navigation systems, including VHF passenger address interphones and static discharge devices, transponders, flight management computers, and GPWS.	
				3. Inspect and repair antenna and electronic equipment installations.	
				Other:	

0	1	2	3	F. Maintain aircraft fuel systems	Notes:
				1. Check and service fuel dump systems.	
				2. Perform fuel management transfer, and defueling.	
				3. Inspect, check, and repair pressure fueling systems.	
				4. Repair aircraft fuel system components.	
				5. Inspect and repair fluid quantity indicating systems.	
				6. Troubleshoot, service, and repair fluid pressure and temperature warning systems.	
				7. Inspect, check, service, troubleshoot, and repair aircraft fuel systems.	
				Other:	

0	1	2	3	G. Maintain aircraft electrical systems	Notes:
				1. Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors.	
				2. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices.	
				3. Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems.	
				4. Inspect, check, and troubleshoot constant speed and integrated speed drive generators.	
				Other:	

0	1	2	3	H. Maintain position and warning systems	Notes:
				1. Inspect, check, and service speed and configuration warning systems, electrical brake controls, and anti-skid systems.	
				2. Inspect, check, troubleshoot, and service landing gear position indicating and warning systems.	
				Other:	

0	1	2	3	I. Maintain ice and rain control systems	Notes:
				1. Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems.	
				Other:	

0	1	2	3	J. Maintain fire protection systems	Notes:
				1. Inspect, check, and service smoke and carbon monoxide detections systems.	
				2. Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems.	
				Other:	

Leadership Development Curriculum**

0	1	2	3	A. Demonstrate leadership skills in the classroom, industry, and society	Notes:
				1. Demonstrate an understanding of Skills USA/VICA, its structure, and activities.	
				2. Demonstrate an understanding of one's personal values.	
				3. Perform task related to effective personal management.	
				4. Demonstrate interpersonal skills.	
				5. Demonstrate etiquette and courtesy.	
				6. Demonstrate effectiveness in oral and written communication.	
				7. Develop and maintain a code of professional ethics.	
				8. Maintain a good professional appearance.	
				9. Perform basic task related to securing and terminating employment.	
				10. Perform basic parliamentary procedures in a group meeting.	

** These leadership competencies are common to all DESE Competency Profiles